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**CONSTRUCTION:** An infrared lamp 2 such as a high power tungsten lamp or the like is mounted on a reflecting mirror 5 plated with Au or Pt on the surface, and a substrate crystal 2 supported to a transparent quartz supporting base 3 and sealed in a transparent quartz tube 1 is installed in the inner space. Since the infrared ray heating converts and uses the light energy of the infrared ray into thermal energy of heating the substrate, the substrate preferably has large absorption of the light of particularly 0.5-2  $\mu$ m in wavelength to efficiently convert the ray to the thermal energy. In order to further improve the temperature rising and falling characteristics to suppress the decomposition of the compound semiconductor as low as possible, an amorphous layer 2' is formed on the insulating film forming substrate 2. This layer 2' has large conversion efficiency of infrared light to heat as compared with the single crystal state of the compound semiconductor in the absorption coefficient to the wavelength of approx. 1-2  $\mu$ m.

